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EXAMINER	
HO, CHUONG T	
ART UNIT	**PAPER NUMBER**
2619	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/677,362	QIU ET AL.	
	Examiner	Art Unit	
	CHUONG T. HO	2619	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 August 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10 and 12-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *8* is/are allowed.

6)☒ Claim(s) *1-7,9-10,12-15, 16-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. The amendment filed 08/08/07 have been entered and made of record.

2. Applicant's arguments with respect to claims 1-10,12-18 have been considered but are moot in view of the new ground(s) of rejection.

3. Claims 1-10, 12-18 are pending.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 1, 4, 5-7, 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carlborg et al. (2003/0078050 A1) in view of Takihiro (US 6,278,712 B1).

As to claim 1. Carlborg et al. discloses a resource allocating system in a radio packet communication system for transmission and reception of packet data between a base station (figure 1, 104) and a mobile station (figure 1, 102), in which the base station (figure 1, 104) allocates a necessary resource ([0015], air interface reservation parameters (e.g., user / bits 115)) ([0037], resource reservation request and response) to communication with the mobile station (figure 1, 102), the resource allocation system comprising:

A reservation signal transmitting step wherein the mobile station (figure 1, 102) transmits a reservation signal ([0011], reservation resource request) containing priority level information (priority data associated with a plurality of air interface resource reservation parameters, and user identification data) about a priority level of communication to let the base station receive the reservation signal ([0011], reservation resource request);

A reserved time length ([0020], the call back notification 126 may be sent at some time prior to the actual call initiation by the remote wireless unit 102 to notify the remote wireless unit 102 that the reserved time is, for example, five minutes away, or one minute away, or any other suitable time) in the reservation signal transmitted in the reservation signal transmitting step, the base station (figure 1, 104) sets a length of a reserved time for allocation of a resource, as a reserved time length ([0032], reservation time, [0033] reserved time);

A resource allocation reserving step wherein when there is a resource available for allocation in reserved time region defined by the reserved time length set in the reserved time length setting step, from a predetermined reservation start time, the base station reserves allocation of a resource for the communication with the mobile station having transmitted the reserved signal ([0012], the wireless network element receives the air interface resource reservation request to determine whether an air interface resource is available for the user at a defined future time and generates an air interface resource reservation response indicating whether the desired resource will be available for the remote wireless unit).

However, Carlborg et al. are silent to disclosing a reserved time length setting step wherein a start time of the reserved time , based on the priority level information in the reservation signal transmitted in the reservation signal transmitting step.

Takihiro discloses a reserved time length setting step wherein a start time of the reserved time “start of the reserved time communication” , based on the priority level information in the reservation signal transmitted in the reservation signal transmitting step (figure 2, reservation priority level 518, figure 9, a reserved communication time for priority level 1 “priority” , a reserved communication time for priority level 2 “non priority”) (col. 2, lines 66-67, col. 3, lines 18-32, lines 65-67, col. 8, line 50, col. 11, lines 23-30).

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate a reserved time length setting step wherein, based on the priority level information in the reservation signal transmitted in the reservation signal transmitting step taught by Takihiro into the system of Carlborg. One would have been motivated to do so to users shared these limited physical resources.

2. As to claim 4, Carlborg et al. discloses a resource allocating system in a radio packet communication system for transmission and reception of packet data between a base station (figure 1, 104) and a mobile station (figure 1, 102), in which the base station (figure 1, 104) allocates a necessary resource ([0015], air interface reservation parameters (e.g., user / bits 115)) ([0037], resource reservation request and response) to communication with the mobile station (figure 1, 102), the resource allocation system comprising:

A reservation signal transmitting step wherein the mobile station (figure 1, 102) transmits a reservation signal ([0011], reservation resource request) containing priority level information (priority data associated with a plurality of air interface resource reservation parameters, and user identification data) about a priority level of communication to let the base station receive the reservation signal ([0011], reservation resource request);

A reserved time length ([0020], the call back notification 126 may be sent at some time prior to the actual call initiation by the remote wireless unit 102 to notify the remote wireless unit 102 that the reserved time is, for example, five minutes away, or one minute away, or any other suitable time) in the reservation signal transmitted in the reservation signal transmitting step, the base station (figure 1, 104) sets a length of a reserved time for allocation of a resource, as a reserved time length ([0032], reservation time, [0033] reserved time);

A resource allocation reserving step wherein when there is a resource available for allocation in reserved time region defined by the reserved time length set in the reserved time length setting step, from a predetermined reservation start time, the base station reserves allocation of a resource for the communication with the mobile station having transmitted the reserved signal ([0012], the wireless network element receives the air interface resource reservation request to determine whether an air interface resource is available for the user at a defined future time and generates an air interface resource reservation response indicating whether the desired resource will be available for the remote wireless unit).

However, Carlborg et al. are silent to disclosing a reserved time length setting step wherein a start time of the reserved time , based on the priority level information in the reservation signal transmitted in the reservation signal transmitting step.

Takihiro discloses a reserved time length setting step wherein a start time of the reserved time “start of the reserved time communication” , based on the priority level information in the reservation signal transmitted in the reservation signal transmitting step (figure 2, reservation priority level 518, figure 9, a reserved communication time for priority level 1 “priority” , a reserved communication time for priority level 2 “non priority”) (col. 2, lines 66-67, col. 3, lines 18-32, lines 65-67, col. 8, line 50, col. 11, lines 23-30).

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate a reserved time length setting step wherein, based on the priority level information in the reservation signal transmitted in the reservation signal transmitting step taught by Takihiro into the system of Carlborg. One would have been motivated to do so to users shared these limited physical resources.

3. As to claim 15, Carlborg et al. discloses a resource allocating system in a radio packet communication system for transmission and reception of packet data between a base station (figure 1, 104) and a mobile station (figure 1, 102), in which the base station (figure 1, 104) allocates a necessary resource ([0015], air interface reservation parameters (e.g., user / bits 115)) ([0037], resource reservation request and response) to communication with the mobile station (figure 1, 102), the resource allocation system comprising:

Wherein the mobile station (figure 1, 102) comprises reservation signal transmitting means for transmitting a reservation signal ([0011], reservation resource request) containing priority level information (priority data associated with a plurality of air interface resource reservation parameters, and user identification data) about a priority level of communication to let the base station receive the reservation signal ([0011], reservation resource request);

Wherein the base station (figure 1, 104) comprises: reservation signal receiving means for receiving the reservation signal ([0037], resource reservation request) transmitted from the mobile station (figure 1, 102) ; A reserved time length setting means for setting a length of a reserved time for allocation of a resource by the base station ([0020], the call back notification 126 may be sent at some time prior to the actual call initiation by the remote wireless unit 102 to notify the remote wireless unit 102 that the reserved time is, for example, five minutes away, or one minute away, or any other suitable time) ([0032], reservation time, [0033] reserved time);

A resource allocation reserving step wherein when there is a resource available for allocation in reserved time region defined by the reserved time length set in the reserved time length setting step, from a predetermined reservation start time, the base station reserves allocation of a resource for the communication with the mobile station having transmitted the reserved signal ([0012], the wireless network element receives the air interface resource reservation request to determine whether an air interface resource is available for the user at a defined future time and generates an air interface resource reservation response indicating whether the desired resource will be available for the remote wireless unit).

However, Carlborg et al. are silent to disclosing a reserved time length setting step wherein a start time of the reserved time, based on the priority level information in the reservation signal transmitted in the reservation signal transmitting step.

Takihiro discloses a reserved time length setting step wherein a start time of the reserved time “start of the reserved time communication” , based on the priority level information in the reservation signal transmitted in the reservation signal transmitting step (figure 2, reservation priority level 518, figure 9, a reserved communication time for priority level 1 “priority” , a reserved communication time for priority level 2 “non priority”) (col. 2, lines 66-67, col. 3, lines 18-32, lines 65-67, col. 8, line 50, col. 11, lines 23-30).

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate a reserved time length setting step wherein, based on the priority level information in the reservation signal transmitted in the reservation signal transmitting step taught by Takihiro into the system of Carlborg. One would have been motivated to do so to users shared these limited physical resources.

4. As to claim 5, Takihiro discloses the reserved time length setting means sets a longer reserved time length for a high priority level than for a low priority level, based on the priority level information in the reserved signal (figure 2, reservation priority level 518, figure 9, a reserved communication time for priority level 1 “priority” , a reserved communication time for priority level 2 “non priority”) (col. 2, lines 66-67, col. 3, lines 18-32, lines 65-67, col. 8, line 50, col. 11, lines 23-30).

5. As to claim 6, Carlborg et al. discloses the resource allocation reserving means sets the reservation start time on the basis of at least one of a reception time when the reservation signal receiving means receives the reservation signal, and the priority level information in the reservation signal ([0020], the call back notification 126 may be sent at some time prior to the actual call initiation by the remote wireless unit 102 to notify the remote wireless unit 102 that the reserved time is, for example, five minutes away, or one minute away, or any other suitable time).

6. As to claim 7, Carlborg et al. disclose wherein the resource allocation reserving means sets the reservation start time at a shorter time after the reception time when the reservation signal receiving means receives the reservation signal, for a low priority level than for a high priority level, based on the priority level information in the reservation signal ([0020], the call back notification 126 may be sent at some time prior to the actual call initiation by the remote wireless unit 102 to notify the remote wireless unit 102 that the reserved time is, for example, five minutes away, or one minute away, or any other suitable time) ([0033], the paging of the user should preferably occur within a short time before the designated reserved time, such as prior to the actual reserved time).

7. Claims 3, 10, 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combined system (Carlborg – Takihiro) in view of Atarashi (2002/0159470 A1).

As to claim 3, the combined system (Carlborg – Takihiro) disclose the limitations of claim 1 above.

However, the combined system (Carlborg – Takihiro) are silent to disclosing a spreading code to be allocated to the mobile station is designated for each said reserved signal.

Atarashi discloses a spreading code to be allocated to the mobile station is designated for each said reserved signal ([0016] [0017] [0030] [0049, spreading codes is allocated for each said the reservation demand packet).

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate a spreading code to be allocated to the mobile station is designated for each said reserved signal taught by Atarashi into the combined system (Carlborg – Takihiro). One would have been motivated to do so to allow the number of users or the variation of services in timeslots.

8. As to claim 10, claim 10 is rejected the same reasons of claim 3 above.

9. As to claim 14, claim 14 is rejected the same reasons of claim 3 above.

10. Claims 2, 9, 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carlborg et al. (2003/0078050 A1) in view of Atarashi (2002/0159470).

As to claim 2. Carlborg et al. discloses a resource allocating method in a radio packet communication system for transmission and reception of packet data by code division multiplexing between a base station and a mobile station, in which the mobile station transmits a reservation signal to the base station and in which the base station allocation a necessary resource to communication with the mobile station on the basis of the reservation signal transmitted from the mobile station ([0020], the call back notification 126 may be sent at some time prior to the actual call initiation by the remote wireless unit 102 to notify the remote wireless unit 102 that the reserved time is, for example, five minutes away, or one minute away, or any other suitable time). However, Carlborg et al. are silent to disclosing the base station designates a spreading code to be allocated to the mobile station, for each said reservation signal.

Atarashi discloses the base station designates a spreading code to be allocated to the mobile station, for each said reservation signal ([0016] [0017] [0030] [0049, spreading codes is allocated for each said the reservation demand packet).

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate a spreading code to be allocated to the mobile station is designated for each said reserved signal taught by Atarashi into the system of Carlborg . One would have been motivated to do so to allow the number of users or the variation of services in timeslots.

11. As to claim 9, claim 9 is rejected the same reasons of claim 2 above.

12. As to claim 13, claim 13 is rejected the same reasons of claim 2 above.

13. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Carlborg et al. (2003/0078050 A1) in view of Chen et al. (5,923,650)

As to claim 12, Carlborg et al. disclose a mobile station for, using a resource allocated by a base station, performing transmission and reception of packet data by code division multiplexing to and from the base station, the mobile station comprising: reservation signal transmitting means for transmitting to the base station a reservation signal ([0020], the call back notification 126 may be sent at some time prior to the actual call initiation by the remote wireless unit 102 to notify the remote wireless unit 102 that the reserved time is, for example, five minutes away, or one minute away, or any other suitable time).

However, Carlborg et al. are silent to disclosing a reservation signal containing maximum transmit power information of the mobile station and transmit power information of the reservation signal;

Chen et al. disclose a signal containing maximum transmit power information of the mobile station and transmit power information of the reservation signal (col. 13, lines 22-32); and transmission rate changing means for changing a transmission rate according to a resource set based on the signal transmitted by the reservation signal transmitting means (col. 13, lines 22-32).

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate a reservation signal containing maximum transmit power information of the mobile station and transmit power information of the reservation signal taught by Chen into the system of Carlborg. One would have motivated to do so to allow to control the transmission power and transmission bit rate between the base station and mobile station.

14. Claims 16, 17, 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carlborg et al. (2003/0078050 A1) in view of Takihiro (US 6,278,712 B1), and in further view of Cain (U.S.Patent No. 6,982,987 B2).

As to claim 16, Carlborg et al. discloses a resource allocating system in a radio packet communication system for transmission and reception of packet data between a base station (figure 1, 104) and a mobile station (figure 1, 102), in which the base station (figure 1, 104) allocates a necessary resource ([0015], air interface reservation parameters (e.g., user / bits 115)) ([0037], resource reservation request and response) to communication with the mobile station (figure 1, 102), the resource allocation system comprising:

A reservation signal transmitting step wherein the mobile station (figure 1, 102) transmits a reservation signal ([0011], reservation resource request) containing priority level information (priority data associated with a plurality of air interface resource reservation parameters, and user identification data) about a priority level of communication to let the base station receive the reservation signal ([0011], reservation resource request);

A reserved time length ([0020], the call back notification 126 may be sent at some time prior to the actual call initiation by the remote wireless unit 102 to notify the remote wireless unit 102 that the reserved time is, for example, five minutes away, or one minute away, or any other suitable time) in the reservation signal transmitted in the reservation signal transmitting step, the base station (figure 1, 104) sets a length of a reserved time for allocation of a resource, as a reserved time length ([0032], reservation time, [0033] reserved time);

there is a resource available for allocation in reserved time region defined by the reserved time length set in the reserved time length setting step, from a predetermined reservation start time, the base station reserves allocation of a resource for the communication with the mobile station having transmitted the reserved signal ([0012], the wireless network element receives the air interface resource reservation request to determine whether an air interface resource is available for the user at a defined future time and generates an air interface resource reservation response indicating whether the desired resource will be available for the remote wireless unit).

However, Carlborg et al. are silent to disclosing a reserved time length setting step wherein a start time of the reserved time , based on the priority level information in the reservation signal transmitted in the reservation signal transmitting step.

Takihiro discloses wherein said first reserved time region is a region that is set from predetermined reservation start time and said first reserved time includes the second reserved time region (figure 2, reservation priority level 518, figure 9, a reserved communication time for priority level 1 "priority" , a reserved communication time for priority level 2 "non priority") (col. 2, lines 66-67, col. 3, lines 18-32, lines 65-67, col. 8, line 50, col. 11, lines 23-30).

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate a reserved time length setting step wherein, based on the priority level information in the reservation signal transmitted in the reservation signal transmitting step taught by Takihiro into the system of Carlborg. One would have been motivated to do so to users shared these limited physical resources.

However, the combined system (Takihiro – Carborg) is silent to disclosing a reserved time region setting step wherein, when the priority level information in the reservation signal transmitted in the reservation signal transmittal step, indicates a high priority level, the base station sets a first reserved time region including a first reserved time length based on said high priority level, when said priority level information indicates a low priority level lower than said high priority level, the base station sets a second reserved time region including a second reserved time length that is shorter than said first reserved time length.

Cain (U.S.Patent No. 6,982,987 B2) discloses a reserved time region setting step wherein, when the priority level information in the reservation signal transmitted in the reservation signal transmittal step, indicates a high priority level, the base station sets a first reserved time region including a first reserved time length based on said high priority level, when said priority level information indicates a low priority level lower than said high priority level, the base station sets a second reserved time region including a second reserved time length that is shorter than said first reserved time length; and a resource allocation reserving step when the base station receives the reservation signal indicating the high priority level and when there is a resource available for allocation in the first reserved time region, the base station reserves allocation of the resource in the first reserved time region for the communication with the mobile station having transmitted the reservation signal, and when the base station receives the reservation signal indicating the low priority level and when there is a resource available in the second reserved time region, the base station reserves allocation of the resource in said second reserved time region for the communication with the mobile station having transmitted the reservation signal (col. 7, lines 13-15, prioritization of the communication links will be addressed in greater detail below. In addition, the controller 18 may also prioritize the communication links and schedule the at least one available time slot based upon this prioritization) (col. 39, lines 22-25, the level of demand for a given communication link during a time slot may be further segmented into the amount of expected demand for several priority class of traffic. This enables more effective allocation of time slots to meet the demand of prioritized traffic) (col.39, lines 36-37, if the traffic is prioritized into p priority classes in order of priority from lowest to highest, P1, P2, P3 ,...., PN, then the time slot demand for priority class Pj is) (col. 40, lines 26-28, the estimated demand for all priority classes and the number of allocated slots). Both Takihiro, Carborg, and Cain discloses the time slots assignment. Cain recognizes when the priority level information in the reservation signal transmitted in the reservation signal transmittal step, indicates a high priority level, the base station sets a first reserved time region including a first reserved time length based on said high priority level, when said priority level information indicates a low priority level lower than said high priority level. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combined system (Takihiro – Carborg) with the teaching of Cain to include the priority level information in the reservation signal transmitted in the reservation signal transmittal step in order to control the transmit data to the mobile station. Thus, the modified system would have been enable to assign efficiently the bandwidth resource between the base station and the mobile station.

15. As to claim 17, Carlborg et al. discloses a resource allocating system in a radio packet communication system for transmission and reception of packet data between a base station (figure 1, 104) and a mobile station (figure 1, 102), in which the base station (figure 1, 104) allocates a necessary resource ([0015], air interface reservation parameters (e.g., user / bits 115)) ([0037], resource reservation request and response) to communication with the mobile station (figure 1, 102), the resource allocation system comprising:

A reservation signal transmitting step wherein the mobile station (figure 1, 102) transmits a reservation signal ([0011], reservation resource request) containing priority level information (priority data associated with a plurality of air interface resource reservation parameters, and user identification data) about a priority level of communication to let the base station receive the reservation signal ([0011], reservation resource request);

A reserved time length ([0020], the call back notification 126 may be sent at some time prior to the actual call initiation by the remote wireless unit 102 to notify the remote wireless unit 102 that the reserved time is, for example, five minutes away, or one minute away, or any other suitable time) in the reservation signal transmitted in the reservation signal transmitting step, the base station (figure 1, 104) sets a length of a reserved time for allocation of a resource, as a reserved time length ([0032], reservation time, [0033] reserved time);

there is a resource available for allocation in reserved time region defined by the reserved time length set in the reserved time length setting step, from a predetermined reservation start time, the base station reserves allocation of a resource for the communication with the mobile station having transmitted the reserved signal ([0012], the wireless network element receives the air interface resource reservation request to determine whether an air interface resource is available for the user at a defined future time and generates an air interface resource reservation response indicating whether the desired resource will be available for the remote wireless unit).

However, Carlborg et al. are silent to disclosing a reserved time length setting step wherein a start time of the reserved time , based on the priority level information in the reservation signal transmitted in the reservation signal transmitting step.

Takihiro discloses wherein said first reserved time region is a region that is set from predetermined reservation start time and said first reserved time includes the second reserved time region (figure 2, reservation priority level 518, figure 9, a reserved communication time for priority level 1 "priority" , a reserved communication time for priority level 2 "non priority") (col. 2, lines 66-67, col. 3, lines 18-32, lines 65-67, col. 8, line 50, col. 11, lines 23-30).

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate a reserved time length setting step wherein, based on the priority level information in the reservation signal transmitted in the reservation signal transmitting step taught by Takihiro into the system of Carlborg. One would have been motivated to do so to users shared these limited physical resources.

However, the combined system (Takihiro – Carborg) is silent to disclosing a reserved time region setting step wherein, when the priority level information in the reservation signal transmitted in the reservation signal transmittal step, indicates a high priority level, the base station sets a first reserved time region including a first reserved time length based on said high priority level, when said priority level information indicates a low priority level lower than said high priority level, the base station sets a second reserved time region including a second reserved time length that is shorter than said first reserved time length.

Cain (U.S.Patent No. 6,982,987 B2) discloses a reserved time region setting step wherein, when the priority level information in the reservation signal transmitted in the reservation signal transmittal step, indicates a high priority level, the base station sets a first reserved time region including a first reserved time length based on said high priority level, when said priority level information indicates a low priority level lower than said high priority level, the base station sets a second reserved time region including a second reserved time length that is shorter than said first reserved time length; and a resource allocation reserving step when the base station receives the reservation signal indicating the high priority level and when there is a resource available for allocation in the first reserved time region, the base station reserves allocation of the resource in the first reserved time region for the communication with the mobile station having transmitted the reservation signal, and when the base station receives the reservation signal indicating the low priority level and when there is a resource available in the second reserved time region, the base station reserves allocation of the resource in said second reserved time region for the communication with the mobile station having transmitted the reservation signal (col. 7, lines 13-15, prioritization of the communication links will be addressed in greater detail below. In addition, the controller 18 may also prioritize the communication links and schedule the at least one available time slot based upon this prioritization) (col. 39, lines 22-25, the level of demand for a given communication link during a time slot may be further segmented into the amount of expected demand for several priority class of traffic. This enables more effective allocation of time slots to meet the demand of prioritized traffic) (col.39, lines 36-37, if the traffic is prioritized into p priority classes in order of priority from lowest to highest, P1, P2, P3 ,...., PN, then the time slot demand for priority class Pj is) (col. 40, lines 26-28, the estimated demand for all priority classes and the number of allocated slots). Both Takihiro, Carborg, and Cain discloses the time slots assignment. Cain recognizes when the priority level information in the reservation signal transmitted in the reservation signal transmittal step, indicates a high priority level, the base station sets a first reserved time region including a first reserved time length based on said high priority level, when said priority level information indicates a low priority level lower than said high priority level. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combined system (Takihiro – Carborg) with the teaching of Cain to include the priority level information in the reservation signal transmitted in the reservation signal transmittal step in order to control the transmit data to the mobile station. Thus, the modified system would have been enable to assign efficiently the bandwidth resource between the base station and the mobile station.

16. As to claim 18, Carlborg et al. discloses a resource allocating system in a radio packet communication system for transmission and reception of packet data between a base station (figure 1, 104) and a mobile station (figure 1, 102), in which the base station (figure 1, 104) allocates a necessary resource ([0015], air interface reservation parameters (e.g., user / bits 115)) ([0037], resource reservation request and response) to communication with the mobile station (figure 1, 102), the resource allocation system comprising:

Wherein the mobile station comprises a reservation signal transmitting unit configured to transmit a reservation signal containing priority level information about a priority level of communication, to the base station, and wherein the base station comprises: a reservation signal receiving unit configured to receive the reservation signal transmitted from the mobile station (figure 1, [0015] [0037]);

A reservation signal transmitting step wherein the mobile station (figure 1, 102) transmits a reservation signal ([0011], reservation resource request) containing priority level information (priority data associated with a plurality of air interface resource reservation parameters, and user identification data) about a priority level of communication to let the base station receive the reservation signal ([0011], reservation resource request);

A reserved time length ([0020], the call back notification 126 may be sent at some time prior to the actual call initiation by the remote wireless unit 102 to notify the remote wireless unit 102 that the reserved time is, for example, five minutes away, or one minute away, or any other suitable time) in the reservation signal transmitted in the reservation signal transmitting step, the base station (figure 1, 104) sets a length of a reserved time for allocation of a resource, as a reserved time length ([0032], reservation time, [0033] reserved time);

there is a resource available for allocation in reserved time region defined by the reserved time length set in the reserved time length setting step, from a predetermined reservation start time, the base station reserves allocation of a resource for the communication with the mobile station having transmitted the reserved signal ([0012], the wireless network element receives the air interface resource reservation request to determine whether an air interface resource is available for the user at a defined future time and generates an air interface resource reservation response indicating whether the desired resource will be available for the remote wireless unit).

However, Carlborg et al. are silent to disclosing a reserved time length setting step wherein a start time of the reserved time , based on the priority level information in the reservation signal transmitted in the reservation signal transmitting step.

Takihiro discloses wherein said first reserved time region is a region that is set from predetermined reservation start time and said first reserved time includes the second reserved time region (figure 2, reservation priority level 518, figure 9, a reserved communication time for priority level 1 "priority" , a reserved communication time for priority level 2 "non priority") (col. 2, lines 66-67, col. 3, lines 18-32, lines 65-67, col. 8, line 50, col. 11, lines 23-30).

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate a reserved time length setting step wherein, based on the priority level information in the reservation signal transmitted in the reservation signal transmitting step taught by Takihiro into the system of Carlborg. One would have been motivated to do so to users shared these limited physical resources.

However, the combined system (Takihiro – Carborg) is silent to disclosing a reserved time region setting step wherein, when the priority level information in the reservation signal transmitted in the reservation signal transmittal step, indicates a high priority level, the base station sets a first reserved time region including a first reserved time length based on said high priority level, when said priority level information indicates a low priority level lower than said high priority level, the base station sets a second reserved time region including a second reserved time length that is shorter than said first reserved time length.

Cain (U.S.Patent No. 6,982,987 B2) discloses a reserved time region setting step wherein, when the priority level information in the reservation signal transmitted in the reservation signal transmittal step, indicates a high priority level, the base station sets a first reserved time region including a first reserved time length based on said high priority level, when said priority level information indicates a low priority level lower than said high priority level, the base station sets a second reserved time region including a second reserved time length that is shorter than said first reserved time length; and a resource allocation reserving step when the base station receives the reservation signal indicating the high priority level and when there is a resource available for allocation in the first reserved time region, the base station reserves allocation of the resource in the first reserved time region for the communication with the mobile station having transmitted the reservation signal, and when the base station receives the reservation signal indicating the low priority level and when there is a resource available in the second reserved time region, the base station reserves allocation of the resource in said second reserved time region for the communication with the mobile station having transmitted the reservation signal (col. 7, lines 13-15, prioritization of the communication links will be addressed in greater detail below. In addition, the controller 18 may also prioritize the communication links and schedule the at least one available time slot based upon this prioritization) (col. 39, lines 22-25, the level of demand for a given communication link during a time slot may be further segmented into the amount of expected demand for several priority class of traffic. This enables more effective allocation of time slots to meet the demand of prioritized traffic) (col.39, lines 36-37, if the traffic is prioritized into p priority classes in order of priority from lowest to highest, P1, P2, P3 ,...., PN, then the time slot demand for priority class Pj is) (col. 40, lines 26-28, the estimated demand for all priority classes and the number of allocated slots). Both Takihiro, Carborg, and Cain discloses the time slots assignment. Cain recognizes when the priority level information in the reservation signal transmitted in the reservation signal transmittal step, indicates a high priority level, the base station sets a first reserved time region including a first reserved time length based on said high priority level, when said priority level information indicates a low priority level lower than said high priority level. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combined system (Takihiro – Carborg) with the teaching of Cain to include the priority level information in the reservation signal transmitted in the reservation signal transmittal step in order to control the transmit data to the mobile station. Thus, the modified system would have been enable to assign efficiently the bandwidth resource between the base station and the mobile station.

Allowable Subject Matter

17. Claims 8, 16-18 are allowed.

18. The following is an examiner's statement of reasons for allowance: the prior art (20030078050, 20010033557, 20030100269, 20010017882, 7161952, 7184709) of record does not appear to teach or render obvious the claimed limitations with the specific added limitations, as recited from independent claim 8: "propagation loss calculating means for calculating a propagation loss in transmission of a packet from the mobile station, based on the transmit power information in the reservation signal received by the reservation signal receiving means and information about a received power in reception of the reservation signal by the reservation signal receiving means; maximum received power calculating means for calculating a maximum received power of a signal received from the mobile station, based on the maximum transmit power information in the reservation signal and the propagation loss calculated by the propagation loss calculating means; maximum transmission rate calculating means for calculating a maximum transmission rate allocable to the mobile station, based on the maximum received power calculated by the maximum received power calculating means; and resource allocating means for allocating a resource to the mobile station,

based on the maximum transmission rate calculated by the maximum transmission rate calculating means".

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHUONG T. HO whose telephone number is (571) 272-3133. The examiner can normally be reached on 8:00 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, ORGAD EDAN can be reached on (571) 272-7884. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

10/20/07

EDAN ORGAD
SUPERVISORY PATENT EXAMINER

Edan Orgad 11/10/07